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GIOVANNI da VIGO--SURGEON AND DENTIST TO THE POPE

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On November 20, 1925, in the City of Rapallo, Italy, a monument was dedicated to the memory of one whose death four hundred years earlier was being commemorated. The monument honors Giovanni da Vigo, one of the most noted surgeons of his day, whose writings were to have an inestimable effect upon the development of medicine and surgery and whose textbook on surgery, Practica Copiosa in Arte Chirurgica (Rome 1514), was to remain in all of Europe the authoritative work in that field for over a hundred years.

Since dentistry is an outgrowth of surgery, it is of interest to us to examine da Vigo's works in order to comprehend more fully the development of modern dentistry. It is necessary first, however, to look at the status of medicine and surgery in the period of the early Renaissance.

At the beginning of the Dark Ages with the overrunning of the major centers of civilization in Europe by the barbarian tribes, medicine sank into a torpor in which it languished for approximately a thousand years. Whatever knowledge of the works of the ancient Greeks and Romans had been retained was principally in the seclusion of monasteries which dotted Europe. Almost no new thinking regarding medical practice was forthcoming, except from those centers of Arabic culture which kept the light of knowledge burning during those dark centuries. This knowledge was severely limited however. For example, because of the proscriptions in the Koran against human dissection, the anatomical knowledge of such Arabic medical luminaries as Avicenna, Abul Kasim and Rhazes was woefully inadequate. As a natural consequence surgery was generally avoided, reliance instead being placed on pharmacologic means of healing, a branch of medicine in which the Arabs did indeed excel.

Because of the almost complete absence of medical practitioners, practical necessity forced the monks of Europe to render such medical and surgical treatment as they were able, using as their assistants the local barbers. However, in the year 1163 the Council of Tours

declared that surgery, because it entailed the shedding of blood, was incompatible with the holy office of the clergy. It forbade the monks henceforth to engage in any form of surgical practice. These duties were given over to the barbers, with the clergy retaining the medical practices.

From this point forward medicine and surgery parted ways, with surgery becoming more and more of a craft engaged in by unlettered and untutored practitioners. Medicine, however, began its slow upward climb. Medical schools attached to universities were instituted, with physicians first undergoing intensive study of Latin and Greek and the classical authors. Surgery, however, was not considered by the medical profession as worthy of a place in the university curriculum. Only one medical school, that of Montpellier in Southern France, had a chair in surgery, and that for a short time only.

Who were the surgeons and how were they trained? Besides the barbers, a class of practitioners did develop who learned their craft by apprenticeship. In the beginning there were no attempts at regulation or setting of standards. In fact, it was not until the mid-sixteenth century that England instituted any sort of licensing or regulatory procedures.

It was into this milieu that Giovanni da Vigo was born, the son of the noted surgeon Battista da Rapallo, who served the Margrave Ludovico of Saluzzo and of whom the Margrave spoke as "a man learned and most skilled in surgery." To honor the Margrave, Battista named his son da Vigo.

Da Vigo followed his father's profession and in time became personal surgeon to the Cardinal Julian de la Rovere of Savona, who much like the other princes of the church of his day was more accustomed to the helmet than the crown, and who engaged in numerous battles with rival factions. It was because of da Vigo's extensive experience in treating battle wounds during the cardinal's campaigns that he garnered much of his experience in surgery and medicine. In 1503 the cardinal ascended to the Papal Chair as Julius II. He brought da Vigo with him to Rome as his personal physician. In a short time the court of Julius at Rome became a center of culture and a beehive of intense industry and ambitious effort, all animated by
the spirit of the intense Julius. Bramante was erecting the Church of St. Peter; Michelangelo was at work painting the ceiling of the Sistine Chapel; Raphael was covering the walls of the Vatican Palace with his marvellous frescoes. Da Vigo associated with these men and became imbued with the love of learning and of culture. He felt keenly the lack of education of surgeons and urged that they acquire a classical background and a knowledge of Latin in order for them to absorb the works of the ancient authorities. He did not rest, but kept busy at his chosen profession.

Da Vigo formed a close friendship with Giovanni Anthracino who was the most eminent member of the Roman medical faculty. It was upon Anthracino's urging that he was moved to write the great work of his life Practica Copiosa in Arte Chirurgica (Exhaustive Treatise upon the Art of Surgery) which was finally issued in 1514.

The need for such a textbook is apparent from the preface to the work by the aforesaid Anthracino who writes:

"When, most accomplished reader, I had considered that now for a long time nothing had been published pertaining to the surgical profession, notwithstanding very many things had been added by more acute and modern observers ... I have asked and earnestly entreated that illustrious and noted surgeon of Pope Julius II, Giovanni da Vigo, that he should compose and publish a most worthy and full work on Surgery for general use..."

Our knowledge of the surgical literature of that time justifies Anthracino's claim that no recent contribution to the literature of surgery had been made. The chief Italian work on surgery was that of Peter Argellata who had taught and written at Bologna one hundred years earlier. The only recent and noteworthy book was that of Guy de Chauliac which was printed in Latin, a language with which most surgeons were, however, unfamiliar.

Da Vigo's work consisted of nine books ranging from a consideration of anatomy, to chapters on wounds, abscesses, ulcers, pharmaceuticals and materials as well as sections on diet, exercise and so forth.
The fifth book titled "De Morbo Gallico," rendered in the English translation as "The French Pox," and which we understand as syphilis, was the repository of da Vigo's writings on dentistry. Why he chose this particular book to include his dental observations is unclear. It is probable that it was the only convenient section in which to group them.

Da Vigo's work was an instantaneous success, going through numerous editions in Italian as well as in French, Spanish, German and Portuguese. It was issued in an English translation in 1543, and soon became the standard reference work in its field. In fact after the issuance of the charter to the Royal Guild of Barber-Surgeons by Henry VIII in 1540, this group was authorized to conduct examinations for licensure in the practice of surgery. It was upon da Vigo's work that the candidates were quizzed.

Da Vigo was a strong believer in a sound knowledge of anatomy as a basis for surgical practice. In a letter to his son Luigi—who was later to become a surgeon—da Vigo impresses upon him the need for the study of anatomy. In fact, he declares that he had performed several clandestine dissections to increase his own knowledge. That a need for anatomical knowledge was truly important can be seen in the work of one Christopher Wirtzung who had published in Germany some sixteen years earlier a compendious book, The General Practice of Physick. Wirtzung, an established authority on surgery, deals with the treatment for a "Swelling and falling down of the pallet." This probably meant an infection, streptococcic, very possibly of the soft palate and peritonsilar area. After first recommending that the area be covered with a paste made of album graecum, "that is a white dog's turd (of a dog that eateth nought else but bones)", he states that when the situation is very acute and "if the patient have long haire, then let a strong man take hold of it and pull it upward violently, untill such time as one may perceive that the skin is severed or parted from the scull; then also doth the pallet ascend, because it is fastened to the skin; it hath been found by experience that it hath holpen immediately, and hath preserved the patient from choking." That this treatment based on such abysmal ignorance of anatomy could result in anything short of severe injury to the patient is hard to believe.
Although da Vigo was never guilty of such excesses, he was a product of the thinking of his times which clung to the Galenic theory of the cardinal humors and qualities which supposedly regulate health and disease. Thus in seeking to explain the etiology of abscesses of the jaws, he lays the blame for them on an excess of humors and recommends as remedies the application of materials with opposite qualities to that of the "excess" humor.

Da Vigo was a strong believer in the need for dental care, noting that the teeth are liable to many diseases from diverse causes. He states that since "the teeth serve for comeliness, for chewing of meat and for pronunciation, therefore they must be cured with all diligence." How he set about curing them is a combination of the most primitive and useless remedies with a number of noteworthy and, for his times, advanced treatments.

With regard to the etiology of that condition which we today recognize as periodontal disease, he states: "Laxation or looseness of the teeth chanceth through the looseness of the gums, or through debilitation or weakening of the roots or parts that bind the teeth, all which things happen through rheums and humors descending from the brain and sometime by corrupt vapors mounting from the stomach." Although he gives a lengthy recipe for a concoction of many herbs and plants--including plantain, pomegranate, honey of roses and wild olives--wherewith the gums were to be rubbed, he also points out that "there is yellow filth sticking to the teeth and the roots thereof ... and this should be removed by scraping and rubbing with convenient instruments." In addition he gives a prescription for a passable dentifrice and urges that the "teeth be rubbed therewith in the morning, fasting, thrice a week" in order to preserve and whiten them.

The treatment of toothache caused by dental caries understandably occupies the major portion of da Vigo's writings on dentistry since the scourge of dental disease was widespread, the result, in part, of the extremely poor hygiene of the times. As did many of his predecessors, da Vigo recommends many worthless and exotic remedies for the relief of toothache--among them a decoction made from the skin of an adder, and vinegar in which a frog has been cooked. He quoted as his authorities Avicenna and Rhazes respectively, notwithstanding the fact that these remedies
had been proposed some 700 years earlier. In fact, da
Vigo seemed to be intent on listing in his book any remedy
that had been used, including one which involved crushing
a clove of garlic and binding it to the hand on the same
side as the toothache.

Yet in spite of these nonsensical treatments, da Vigo
did practice some rational dentistry. In the chapter deal-
ing with fractures he outlines the treatment of fractures
of the jaws as follows: the loosened fragment is to be
gently moved back into its correct position, this being
assured when the teeth come together in proper occlusion.
Then he advocates immobilizing the jaws by ligating the
teeth together with gold wires until healing is completed.

Similarly in dealing with a mandibular dislocation, he
introduces a novel method of correction in addition to the
customary one of downward and backward pressure by the
thumbs upon the mandible. He described the method as
follows: the operator places a stick of wood far back upon
the last mandibular molars with the ends protruding from
each side of the mouth, and then, standing in front of the
patient, steadies his head with his hands. His assistant
then steps behind the patient and with downward and back-
ward pressure upon the two ends of the protruding stick
forces the mandible back into its proper position.

His most noteworthy comment is as follows: "Corrosion
chanceth in the great teeth through rottenness with sharp
and evil moisture which groweth, and biteth them. Ye may
remove the said corrosion with trepanes, files and other
convenient instruments, filling the concavities afterward
with leaves of gold." This is the first mention in the
literature of the use of gold fillings in teeth. There is
little doubt that da Vigo himself carried out this opera-
tion since at numerous times throughout his book he states
that he himself tried one or another remedy or treatment,
or that he had personally "proved" it. It would not be
wrong to conclude that he would have also used such a
superior method of treating a carious tooth.

Moreover da Vigo urged prevention of caries through
good hygiene. He stated that after one has eaten "he must
pick his teeth and cleanse them so that no rottenness be
genendered therein."
Of equal importance is the summation of his chapter on dentistry which puts in true perspective the relationship between the surgeon and the itinerant toothdrawer of his day. Da Vigo urged the surgeons of his day to do all they could to preserve teeth, as well as to relieve the patient of "the pain in the teeth, which is the greatest of all pains that killeth not the patient." Yet he recognized the need for expertise in the extraction of teeth when that operation was unavoidable and states, "When all these remedies cannot prevail, we must come to handy operation, to draw out the teeth, whereunto an expert man is requisite, wherefore the surgeons do remit this cure to barbers and to vagabond toothdrawers. Howbeit, it is good to have seen and to mark the working of such." With this da Vigo urged his surgeon readers to observe the methods of extraction even though they themselves may not be called upon to perform them.

The importance of this passage is that it gives the lie to those who say that during this period no dental treatment was rendered, or rather that the only dentistry which was practiced was the extraction of teeth by barbers and charlatans. This is a popular misconception which has been given weight by many otherwise well-informed medical historians. Copeman, an English writer on medical history, for example, in his book, Doctors and Disease in Tudor Times, makes the completely erroneous statement that "dentistry was entirely in the hands of the quacks and mountebanks until the time of John Hunter" in the 1700's. The American medical historian, Massengill, is similarly misinformed when he states that "up to the sixteenth century dentistry was part of medicine, but during that and succeeding centuries dental practice was almost exclusively in the hands of the barber-surgeons." Da Vigo's writings, however, give us definitive evidence that dentistry was indeed practiced by the surgeons of the sixteenth century, with recourse to the barbers and charlatans only as a last resort when all other methods of cure have failed.

Giovanni da Vigo lived on in Rome for some twelve years after the death of Pope Julius II, serving as personal physician to the Pope's cousin, Cardinal Sisto della Rovere. The latest record that we have of his career leaves him still at work, but in poor health with much suffering from asthma. The advent of scientific dentistry
under the leadership of the immortal Pierre Fauchard was still two hundred years in the future. Yet da Vigo in his fashion was one of the pioneers in the long upward march of surgery which ultimately culminated in the birth of the profession of dentistry as we know it today.

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REPORT ON THE BREMNER AWARD CONTEST OF 1967

There were six participants in the Contest. The first prize of $100 was awarded to David H. Wands, of the University of Maryland, whose subject was "Almanac Dentistry."

The second prize of $50 was awarded to Douglas S. Dick, of the Harvard School of Dental Medicine, who wrote on "Roman Dental Practitioners."

The third prize of $25 was awarded to both Roy Ballard, of St. Louis University, whose subject was "Medicine and Dentistry—Twenty Centuries of Changing Relationship," and Mildred Romans, of Howard University, whose subject was "Advertising in Dentistry."

A certificate of achievement was awarded to the fifth-place participant, Stanley F. Koss, of Western Reserve University, for his paper on "Progenitors of Modern High Speed Equipment," and to the sixth-place participant, Alan Z. Barbakow, of the University of Southern California, for his paper on "The Rubber Dam: A 100 Year History."

The judges were Dr. George E. Batterson, of Portland, Oregon; Dr. Max Oppenheim, of Philadelphia, Pennsylvania; and Dr. Walter C. Stout, of Dallas, Texas.

Gardner P. H. Foley, Chairman
Bremner Award Contest
INTRODUCTION

The American almanac was more than a calendar, weather guide, horoscope and family digest. These small pamphlets, found in almost every early American household, contained suggestions in the culinary arts as well as the healing arts - how to prevent colds, destroy bed bugs, heal wounds and insect bites. A substantial amount of dental information can be found in the almanacs of the eighteenth and nineteenth centuries. Interesting parallels exist between early American forms of dental treatment and modern dental concepts.

A review of these early accounts gives us some insight into the practice of dentistry before and at the time of its formal beginnings. With the scarcity of dentists, the relief of oral pain was of primary concern and self-treatment was necessitated. The editors of the almanacs frequently consulted the chapters on dental treatment in medical textbooks as a source of information for their publication. Some of the more popular and effective forms of prevention and treatment gained recognition through household usage and were published annually in the almanacs. Early medicaments were largely common household products such as salt, alum, essential oils, etc. Some forms of treatment had an actual physiologic and pharmacologic basis; however, numerous remedies were based on superstitions. Careful observation and a common sense approach pervaded in most forms of beneficial treatment.

As would be expected, early Americans were troubled by dental ailments similar to those experienced today - the toothache being the most common; extraction being the only form of treatment. The numerous accounts of toothache remedies and methods of treatment are presented to illustrate the importance placed on this malady. As time progresses more sophisticated methods are developed and prevention assumes a more prominent position in dental treatment. Prevention extends also into the area of periodontal disease as well as dental caries.
TOOTHACHE—TREATMENT

The most frequently found dental references were concerned with the prevention and treatment of toothaches, a vexing problem of the times. These toothache remedies were no doubt effective, either by their obtundent properties of the essential oils they contained or by their caustic action causing necrosis of the dental pulp. As one would expect, some confusion existed in the diagnosis of dental ailments. A spurious cure for the toothache in the late seventeenth hundreds was:

Let the party that is troubled with the toothache lie on the contrary side, drop three drops of the juice of rue into the ear on that side the tooth acheth, let it remain an hour or two and it will remove the pain.¹

The following influences of the medical effects of magnetism were communicated in a letter to Dr. Simmons, F.R.S., by Mr. Thomas Henry, F.R.S., apothecary at Manchester and inserted in the London Medical Journal.

A young gentleman had been for some days troubled with a very severe tooth-ache, for which he had tried all the usual remedies without success, and was on the point of submitting to the extraction of the tooth, when a friend informing him that the application of a magnet has been known to effect a cure, he immediately purchased a small artificial one, such as those sold in the shops for tobacco-shoppers, and, with little expectation of success, applied it to his tooth: to his great surprise, in a few minutes the pain entirely ceased, nor had he any return of it afterwards.

Being myself afflicted last winter with a severe pain in a decayed tooth, which was too rotten to be easily extracted, and having tried the various remedies in vain, I recollected the above case, and, having a magnet in the house, applied it to the tooth: instant relief succeeded, my pain left me; and though it afterwards returned several times, in the course of a few days, it was constantly removed by the magnet, which I carried for that purpose in my pocket and I have since remained quite free from it.²
Toward the latter part of the eighteenth century a more sound method of treatment was advocated:

Medical Use of Salt . . . . In toothache, warm salt and water held to the part, and renewed two or three times, will relieve in most cases. If the gums be affected, wash the mouth with brine; if the teeth covered with tartar, wash them twice a day with salt and water . . . .

Physiologic saline is commonly employed today as a surgical irrigant and also is used by patients as a lavage or mouthwash following surgical manipulation in the oral cavity.

The following excerpts from almanacs illustrate the type of treatment available toward the latter part of the eighteenth century.

A Good Remedy for the Tooth-Ache

Take a little cotton, and imbibe it in Lactellus's balsam melted in a spoon, and put it in the hollow tooth.  

For Tooth-Ache

The root of yellow water flower-de-lac rubbed on the tooth which is painful, or chewed in the mouth, in an infant, as if by a charm, drives away the pains of the teeth, arising from what cause soever.

For Tooth-Ache

Get a piece of saltpeter the size of a horse-bean, and apply to the aching tooth, teeth, or gums, and in a few minutes you will find relief.

As dental knowledge and experience improved toward the end of the eighteenth century more intricate methods of treatment evolved, for example:

Cure for the Tooth-Ache

An eminent apothecary in the vicinity of London, has recommended as an effectual cure for the
tooth-ache, the following remedy, which he has been in the habit of using for many years, and out of the number of cases 8-10ths have succeeded, viz. Take three table spoonfuls of brandy, one drachm of camphor, with 30 or 40 drops of laudanum, and dropping a little upon some lint, apply it to the tooth affected, keeping the lint moistened on the tooth and gum for five minutes only.7

Here, again, is an example of direct topical application of a compound containing an essential oil. No doubt this preparation possessed the property as an obtundent and perhaps had some local antiseptic action too.

Remedy for the Tooth-Ache

A sheet of writing paper, burned in a clean white plate, will produce a yellowish oil, which oil is to be soaked up by a small piece of clean cotton, and placed in or about the tooth affected for twelve or fifteen minutes. In the most distressing cases, says a Correspondent, I have known it to give immediate relief. One of which happened last week in a Mrs. F., who for more than three months had been almost tormented by the pain, when by applying the oil of paper, she had immediate relief. I never knew a case where repetition was necessary.8

Nutgall was a popular remedy, deriving its usefulness from the astringent and styptic properties, by virtue of the tannin it contains.

Cure for the Tooth-Ache

Take a nutgall, break it, put a small piece of the inside into the hole of the tooth, and after being there for half an hour, or an hour, it must be removed, when it will be found to be covered with a white matter; and a fresh piece of nutgall is to be put into the tooth so long as any matter shall be found to come away; and when that ceases to be the case, the cure will be found to be effected.9

Calcium hydroxide, a popular modern medicament for the protection of the dental pulp and a stimulant for the
production of secondary dentin, was used, although not in its refined form, as early as 1822. Calcium oxide when added to water is converted to calcium hydroxide. Air-slaked lime is formed from quick lime on exposure to air and is a mixture of calcium hydroxide and calcium carbonate.

Remedy for the Tooth-Ache

Put a piece of sunslaked lime about the size of a walnut, in a quart bottle of water, and keep it corked, cleanse the teeth with the brush every morning, using the water and rinse the mouth with it after dinner and tea. If the water is too strongly impregnated with the lime, dilute it. This practice will not only prevent the tooth-ache, but will preserve the teeth.\textsuperscript{10}

The following excerpts from almanacs of the early nineteenth century are interesting and humorous, but have little, if any, pharmacological benefit.

Tooth-Ache

The following prescription is recommended as a "sovereign remedy" for this afflicting disorder: To a tablespoon of any kind of spirits, add the same quantity of sharp vinegar and a teaspoonful of common salt: mix them well together and hold the liquid in the mouth so that it can enter the cavity of the tooth. It will give almost instantaneous relief.\textsuperscript{11}

A Radical Cure for the Tooth-Ache

Use as a tooth powder the Spanish snuff called Sibella, and it will clean the teeth as well as any other powder, and totally prevent the tooth-ache; and make a regular practice of washing behind the ears with cold water every morning; the remedy is infallible.\textsuperscript{12}

Cure for the Tooth-Ache

Make a solution of camphor and pulverized cayenne pepper, dip therein a small quantity of raw cotton and apply it to the infected tooth,
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and it will give instant relief. To prevent the composition from getting into the throat, lay a bit of rag over the tooth for a few minutes. 13

Tooth-Ache

A remedy for this most painful affection which has succeeded in ninety-five of a hundred cases, is alum reduced to an impalpable powder, 2 drachms nitrous spirit of ether, seven drachms mixed and applied to the tooth.

At a recent meeting of the London Medical Society, Dr. Blake stated that the extraction of the tooth was no longer necessary, as he was enabled to cure the most desperate cases of tooth ache (unless the disease was connected with the rheumatism) by the application of this remedy. 14

General Taylor's Old Rough and Ready Almanac 1847, Lancaster, Pennsylvania, also contained the above remedy with the following addition, "... the chemical action which produces the caries (decay of the bone) will cease. 15

Remedy for the Tooth-Ache

Take a small piece of raw alum, mash it fine, and mix it with half as much table salt — then take a piece of raw cotton, moisten it with warm water, and rub the cotton into the mixture of alum and salt; press the cotton thus prepared into the tooth, if hollow, or if not, place it about the gum of the affected tooth. The relief is always sure, almost always immediate and permanent. 16

Remedies for Disease of the Teeth

If hollowed or decayed, apply compound tincture of Benjamin, or some essential oil, on cotton; chew the roots of pellitory of Spain. Some burn the nerve with vitriolic or nitrous acid or with a hot iron. 17
For the Tooth-Ache

If caused by a cold, a ginger poultice is the best remedy. Wet a thick flannel cloth in scalding vinegar, sprinkle it thickly over with ground ginger, and bind on the face when going to bed.\textsuperscript{18}

Perhaps the most humorous cure contained in the almanacs appeared in \textit{The Farmer's and Family Almanac} of 1857.

Cure for the Toothache

Those of our readers who have writhed and groaned under the torture of an aching tooth will, we doubt not, read with pleasure the following "sure cure" which we copy from an exchange paper: "Get a kettle of water—let it come to a boil, then put your head into it and let simmer for precisely half an hour; take out your head and shake all your teeth into a heap; pick out the decayed ones and throw them away. The sound ones you can put back again.\textsuperscript{19}

Toothache Remedy

\textit{The Dublin Hospital Gazette} states that diseased teeth have been rendered insensible to pain by a cement composed of Canada Balsam and slaked lime, which is to be inserted into the hollow of the tooth, like a pill. It is stated that such pills afford immediate relief in all toothaches but chronic cases of inflammation. This remedy is simple, safe and can be easily tried by any person.\textsuperscript{20}

Tooth-Ache

A very good remedy for the tooth-ache will be found in the following tincture: Take a compound tincture of Benjamin, and Brattley's solution of opium, of each, one drachm, mix. A little of this mixture dripped on cotton and applied to the hollow, and along the gum, of a decayed and painful tooth, will afford great and sometimes effectual relief.\textsuperscript{21}
Cure for Tooth-Ache

By holding in the mouth a solution of bicarbonate of soda (half a drachm in an ounce of water) complete relief can be secured.

Another sure relief will be obtained by saturating a small bit of clean cotton or wool with a strong solution of ammonia, and applying it immediately to the affected tooth.

The purpose of citing these numerous examples is to demonstrate that the methods of relieving the pain from aching teeth were as varied as the almanacs that contained them. Also one can imagine the relative ineffectiveness of a few remedies because so many were recommended.

TOOTHACHE—PREVENTION

Along with the "cures" for toothaches, means of preventing this affliction also developed. Some remedies were not of medicinal value, however, others had actual benefit and are still popular today. The following examples suggest regular and careful home care practices.

To Prevent the Tooth-Ache

After having washed your mouth with water, as cleanliness and indeed health require, you should every morning rinse the mouth with a teaspoonful of lavender water; this simple and innocent remedy is a certain preservative, the success of which has been confirmed by long experience.

The following account contained in Hutchins Improved Almanac was the first sound and practical information regarding preventive practices.

To Prevent Tooth-Ache

As many people are much afflicted with the tooth-ache, and prevention being better than the cure, I think it may not be improper to give my readers some advice how they may in a great measure prevent that grievous pain; which consists in carefully washing the mouth
every morning with cold water, rubbing the teeth well with the fingers or a small brush, made for that use, so that no slime or tartar may gather about the teeth. And if any appearance of a scorbutic humour should appear on the gums, then wash the mouth with thy own water, rubbing the gums well. 24

To Prevent Tooth-Ache

Rub the teeth and gums with a hard toothbrush, using the flowers of sulphur as a tooth powder, every night on going to bed: and if it is done after dinner it will be best: this is an excellent preservative to the teeth, and void of any unpleasant smell. 25

Remedy for Decayed Teeth

An exchange paper gives the following: Mix chalk, powdered fine, with enough salt to give it a decided saline taste. Use once or twice a day as a tooth powder, with no water, but applied dry, with a tolerably stiff toothbrush. 26

PREVENTIVE DENTISTRY

In the eighteenth century people recognized that prevention of tooth decay and gum diseases was not only more comfortable but more effective than the various treatments available. Almanacs contained numerous simple and effective means of promoting oral hygiene, whose basic principle of plaque removal and gingival stimulation are the essence of oral physiotherapy today. An excellent account of preventive dentistry was first published in 1781, and also appeared later in 1823.

Rules for the Preservation of the Teeth and Gums

The teeth are bone thinly covered over with a fine enamel, and this enamel is more or less substantial in different persons. Whenever this enamel is worn through, by too coarse a powder, or too frequent cleaning of the teeth, or eaten thro' by a scorbutic humour in the gums; the tooth cannot long remain sound, any more than a
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filbert kernel can, when it has been pene-trated by a worm.

The teeth therefore are to be cleaned but with great precaution, for if you wear the enamel off faster, by cleaning the outside, than nature supplies it within, your teeth will suffer more by this method, than perhaps by a total neglect. A butcher's skewer, or the wood with which they are made must be bruised and bit at the end, till with a little use, it will become the softest and best brush for this purpose; and in general, you must clean your teeth with this brush alone, without any powder whatever; and once in a fortnight, not oftener, dip your skewer brush into a few grains of gunpowder, breaking them first with the brush and this will remove every spot and blemish, and give your teeth an unconceivable whiteness. It is almost needless to say, that the mouth must be well washed after this operation, for besides the necessity of so doing, the salt-petre, etc. used in the composition of gunpowder, would if it remained, be injurious to the gums, etc. but has not nor can have any bad effect in so short a time. I have constantly practiced this method for 25 years, and am thoroughly convinced it is safe and effectual.

It is necessary to observe, that very near the gums, of people, whose teeth are otherwise good, there is apt to grow a false kind of enamel both within and without, and this enamel, if neglected, pushes the gum higher, and higher, till it leaves the fangs of the teeth quite bare, above the enamel, so that sound teeth are destroyed, because the gum has forsaken that part which is not sheathed and protected in consequence of such neglect; this false enamel must therefore be carefully scaled off; for the gum will no more grow over the least particle of this false enamel, than the flesh will heal over the point of a thorn.27

Ellicott's Maryland and Virginia Almanac of 1789, an interesting method of periodontal treatment:

19
A Method to Strengthen the GUMS, and Fasten Loose TEETH

Dissolve an ounce of myrrh, as much as possible, in half a pint of red port wine, to which add the same quantity of oil of almonds, and wash your mouth with this liquid every morning.28

This almanac is the first to mention the role of periodontal health and its relation to dental health. This almanac also contained a formula for "rotten teeth."

Make a balsam with a sufficient quantity of honey, two scruples of myrrh, in a fine powder, a scruple of gum juniper, and ten grams of rock alum, with which make frequent application to the decayed tooth.29

A more detailed account of early preventive dental practices was contained in The Citizens' and Farmers' New Town and Country Almanac of 1825.

To Preserve the Teeth

Injuries to the teeth are caused principally by heat; tartar, scaling and scurvy in the gum; tho' sometimes no doubt their unsoundness is hereditary, in which case the only remedy is to be found in the art of the dentist. To avoid the ordinary causes of decay, the following rules would be commonly efficacious.

1. Beware of eating or drinking anything very hot. No one thing besides has done so much injury to the teeth as the hot tea, hot coffee and hot soups to which so many people accustom themselves. The use of hot drinks has been known, when suddenly adapted, to produce a sensible effect on the teeth in a few weeks.

2. Clean the teeth twice a day with a brush, in the morning and on going to bed. Water alone, thus frequently used, will commonly be sufficient to prevent the accumulation of tartar, which is ever forming on the teeth, and which if neglected, sooner or later destroys them. But as in particular individuals,
Wands

and at particular times this remedy may not prove sufficient.

3. When the gums threaten to leave any part of the upper part of the teeth exposed, make use of Peruvian bark as a tooth powder. Tincture of myrrh, table salt, and charcoal are also useful in preventing the scurvy of the gums. As this, however, is not always a local disease (perhaps never with persons attentive to cleanliness) the only effectual remedy is to restore a healthy temperament to the whole system.

4. Never use the teeth for cracking nuts or other hard substances. A large part of the animal tooth has irritability and sensation, like the other bones, and experiences the same mischievous effects from exposure. Above it is protected by the gums; below, by a bony encrustation of a peculiar hardness, commonly called the enamel. Whenever either of these defenses are removed, the consequence is pain, disease and decay, and the enamel is more carefully guarded, because when once destroyed it can never be replaced. 30

It is interesting to notice that preventive measures should be initiated upon rising in the morning and also before retiring, rather than after mealtime. This idea is extensively practiced today, and perhaps has some merit, although probably is just a continuation of this early custom.

A fairly accurate theory on the etiology of dental caries was published in an 1855 almanac:

Why Do Teeth Decay?

All the theories that again and again have been advanced in answer to this enquiry, have long since vanished before the true doctrine of the action of external corrosive agents. The great and all-powerful destroyer of the teeth is acid, vegetable or mineral; and it matters not whether that acid is formed in the mouth by the decomposition of particles
of food left between and around the teeth, or whether it is applied directly to the organs themselves: the result is the same, the enamel is dissolved, corroded, and the tooth is destroyed. Very much of the decay in teeth may be attributed to the corrosive effects of Acetic Acid, which is not only in common use as a condiment in the form of vinegar but is generated by the decay and decomposition of any and every variety of vegetable matter. When we consider how very few persons comparatively take special pains to remove every particle of food from between and around their teeth immediately after eating, can we wonder that diseased teeth are so common, and that the early loss is so frequently deplored.

The following is the first almanac reference noted that attached importance to the primary dentition, and to soap as a dentifrice.

Care of the Teeth

Our teeth decay; hence unseemly mouths, bad breath, imperfect mastication. Everybody regrets it. What is the cause? I reply, want of cleanliness. A clean tooth never decays. The mouth is a warm place — ninety-eight degrees. Particles of meat between the teeth soon decompose. Gums and teeth must suffer. Perfect cleanliness will preserve the teeth to old age. How shall it be secured? Use quill pick, and rinse the mouth after eating. Brush and castile soap every morning; then brush with simple water on going to bed. Bestow this trifling care upon your precious teeth, and you will keep them and ruin the dentists. Neglect it and you will be sorry all your lives. Children forget, watch them. The first teeth determine the character of the second set. Give them equal care.

DENTIFRICES

Along with the emphasis on prevention and oral hygiene came the advocation of a multitude of dentifrices as adjuncts to oral hygiene practices. The earliest account of
a dentifrice in the almanacs was in 1780. "To Clean the Teeth—rub them with burnt bread." The value of this dentifrice probably was related to the abrasiveness of the particles and the charcoal which it contained. No doubt a more effective cleanser for the teeth was:

**A Powder for the Teeth**

Take pumice stone and cuttlefish bone, tartar or vitrifiable and mastic, of each two drachms, mush a scruple, and oil of rhodium three drops; mix all into a fine powder.

Several other dentifrices were used during this period, but obviously limited in their effectiveness.

**A Powder to Clean the Teeth**

Take dragons blood and cinnamon, of each an ounce and a half, burnt alum one ounce, beat altogether into a very fine powder, and rub a little on the teeth every other day.

**To Whiten The Teeth**

Dip a piece of clean rag into vinegar of Squills, and rub the teeth and gums with it; it not only whitens, but fastens and strengthens the roots of the teeth and sweetens them— or rub them with nettle, or tobacco ashes, or with vine ashes and a little honey.

**A Receipt To Clean The Teeth and Gums and Make the Flesh Grow Close to The Enamel**

Take an ounce of myrrh in fine powder, two spoonfuls of the best white honey, and a little green sage in a fine powder, mix them well together, and rub the teeth and gums with a little of this balsam every night and morning.

The adsorbent properties of charcoal and its incorporation into dentifrices was rather widely accepted in the beginning of the nineteenth century.
Charcoal Tooth Powder

By late London papers we observe, that powdered charcoal has become the fashionable dentifrice in the higher circles. It is better adapted to cleaning of teeth than any other substance with which we are acquainted. It corrects the fetor which arises from decayed teeth, and at the same time that it whitens them as far as it is possible. We earnestly recommend it to our readers. The celebrated Dr. Darwin directs it to be prepared in the following manner: A lump of charcoal should be put a second time into the fire till it is red hot, as soon as it becomes cool the external ashes should be blown off and it should be immediately reduced to a fine powder in a mortar, sifted and kept close stopped in a phial. It should be used every morning, upon a brush, which is not too hard, with warm water. After every meal, the mouth should be carefully rinsed, to dislodge any animal matter, between the teeth, which by becoming putrid would destroy the enamel, produce pain, and ultimately destroy the teeth.38

Tooth Powder

Pound charcoal, as fine as possible, in a mortar, or grind it in a mill, then well sift it, and apply a little of it to the teeth about twice a week, and it will not only render them beautifully white, but will also make the breath sweet, and the gums firm and comfortable.

If the charcoal is ground in a mortar, it is convenient to grind it in water, to prevent the dust from flying about. Indeed the powder is more convenient for use when kept in water.39

Tooth Powder

Take four ounces of charcoal, beat and sift it fine, and mix it with two ounces of powder of bark. This forms a most excellent tooth-powder.40
The Useful Properties of Charcoal
for Sweetening the Breath
Cleansing the Teeth, etc.

All sorts of glass vessels and other utensils may be purified from long retained smells of every kind, in the easiest and most perfect manner, by rinsing them out well with charcoal powder, after the grosser impurities have been scoured off with sand and potash. Rubbing the teeth, and washing out the mouth with fine charcoal powder, will render the teeth beautifully white, and the breath perfectly sweet, where an offensive breath has been owing to a scorbutic disposition of the gums. Putrid water is immediately deprived of its offensive smell by charcoal.41

Thus we can see that early in the nineteenth century the idea that a dentifrice should be not only an effective cleanser for the teeth, but it must also provide a sweet smell and taste to the oral cavity. This concept closely parallels that of our modern dentifrices advertised today.

Valuable Dentifrice

Keeping the teeth clean is indispensable to their preservation. By suffering the particles of food and other impurities which are constantly collecting about them, to remain, is to favor the production and operation of those causes which effect their ruin.

Take Peruvian bark 2 parts; Armenian bole 4 do.; Carbonate of Soda 1-2 do.; Castile soap 2 do.; Prepared chalk 4 do.; Myrrh 2 do.; Loaf sugar 2 do.

These are to be pulverized, mixed and passed through a sieve. An apothecary can furnish this powder.

The brush with which this powder is to be applied, should be sufficiently large and firm, and the hair not too closely packed.

Brushing the teeth once a day, if faithfully
done, is preferable to many hasty and imperfect attempts to clean them. Merely to pass the brush a few times lightly and rapidly over the teeth, is of little service; four or five minutes should be diligently spent in performing this operation. The idea that enamel can be injured by brushing, is as unfounded and absurd, as it would be to suppose that the palms of the hands might be worn out by moderate labour. The same grateful refreshing sensations, which result from bathing the surface of the body, arise also from a proper attention to the mouth. No one who neglects his mouth can be said to be personally neat; nor can anyone who omits this necessary attention to himself, just expect the voluntary attention of others.\textsuperscript{42}

The common strawberry is a natural dentifrice, and its juices, without any preparation, dissolves the tartareous incrustations on the teeth, and makes the breath sweet and agreeable.\textsuperscript{43}

To Clean the Teeth and Improve the Breath

To four ounces of fresh prepared lime water add a drachm of Peruvian bark and wash the teeth with this water in the morning before breakfast, and after supper. It will effectively destroy the tartar, and remove the offensive smell from those which have most decayed.\textsuperscript{44}

Rub well the teeth and gums with a hard toothbrush, using the flowers of sulphur as a tooth powder, every night on going to bed; and if it is done after dinner it will be best: This is an excellent preservative to the teeth, and void of any unpleasant smell.\textsuperscript{45}

Clean your teeth in pure water two or three times a day; but above all, be sure to have them clean before you go to bed.

The twice-a-day ritual perhaps was initiated to prevent the accumulation of materia alba, which was no doubt
recognized as the causative factor of foul-smelling breath and initiator of calculus deposits.

An interesting advertisement appeared in Hutchins' Improved Almanac and Ephemeris in 1840:

THE TEETH! THE TEETH! THE TEETH!

Important to the eating world. David's Incomparable Compound CREOSOTE TOOTH WASH, recommended to all who wish to keep their teeth white and clean. An agreeable vegetable preparation, possessing an eminent degree the property of cleansing, whitening and preserving the teeth, restoring spongy and diseased gums to a natural and healthy state - purifies the mouth - sweetens the breath, and is an excellent preventive for and cure of Tooth Ache; and is a remedy for the Canker, and the various affections of the mouth and throat, whether occasioned by the use of mercurials or otherwise, will be found invaluable. It contains no injurious substance.

*** Prepared solely by the inventor whose signature will be attached to each label in his handwriting.

Thaddeus Davids, Manufacturing Chemist, 245 Pearl Street, New York

The American Farmer's Almanac of 1855 contained three preparations for the teeth:

To Clean the Teeth and Gums

Take an ounce of myrrh in fine powder, two spoonsful of the best white honey, and a little green sage, in very fine powder. Mix them well together, and wet the teeth and gums, with a little of it every night and morning, this prescription will make the flesh grow close to the teeth, and the root of the enamel.
Asiatic Dentifrices

Take red coral prepared, eight pounds, four ounces, take venitian red twelve ounces, six drachms, take ocre and pumice stone, one pound two ounces, six drachms, take china musk, one drachm. This is the exact formula of the old genuine receipt of the Asiatic Paste.

To Whiten and Beautify the Teeth

Take gum tragacanth; one ounce, cream of tartar, one ounce, dissolve the gum in rose water, and add to it the powder; form the whole into little sticks, and it is fit for use.

Tooth Powder

Take cuttle fish bone, 2 ounces; cream of tartar, 1 ounce; drop lake, 2 drachms; oil of clover, 15 drops. Powder, mix, sift.

Many people living in the rural areas today still feel that common table salt is the best and least expensive dentifrice, a practice cited in an 1850 almanac: "...if the teeth be covered with tartar, wash them twice a day with salt and water."

The Best Dentifrice

A certain dentist when asked, "What is the best dentifrice?" replied: "Soap and water twice a day." But what should one do when in spite of careful brushing, a discoloration comes upon the teeth? "In that case get an ounce of prepared chalk and an ounce of powdered orrisroot, and mix thoroughly. This is as good as any tooth powder made. The orrisroot costs little when bought separately but added to prepared tooth powders one pays more for it. Add a very little sugar to this powder, and it will be more acceptable to the little folks, who should be taught to brush their teeth twice a day. Beware of liquid toothwashes; they usually contain an acid which is extremely destructive to the teeth and the brilliant whiteness produced by their use is at
the cost of the vitality of the teeth." Is charcoal good? "Yes, if it is free from grit. It should be pulverized thoroughly, and feel smooth, else it will scratch and wear away the tooth enamel." 51

The following item published in The Hagerstown Town and Country Almanac in 1846 reflects the common practices of oral hygiene, and also re-emphasizes the significance of dental deposits:

TEETH

To preserve the teeth, brush them gently mornings and evenings with a tooth-brush and luke-warm water. Should the gums bleed slightly by brushing, it will be a good effect. To permit tartar to settle on the teeth, proves ruinous. A little prepared chalk, orris-root and magnesia, mixed is a good dentifrice and may be used occasionally. Common strawberries, in a ripe state, rubbed on teeth and gums, sweetens the breath, and becomes more efficacious in eating them freely. Teeth that are once clean, can be kept so by simply using water and a brush. 52

The essence of effective oral physiotherapy derives its benefit from the brushing habits that clean the teeth, rather than solely upon the detergent effects of a dentifrice. This present-day concept was realized in 1916 when a few suggestions for the care of the teeth were published in the Centerville Observer.

Brush thoroughly after each meal with some good powder or paste. Brush up and down being sure to get between the teeth and well up around the gums. Never brush from side to side as that is apt to injure the gums. 53

Mouthwashes were popular in the late eighteen hundreds and were more popularly termed "gargles."

Common Gargle

Take of rose water, six ounces; syrup of clove, July flowers, half an ounce; spirit of vitriol,
a sufficient quantity to give it an agreeable sharpness. Mix them. This gargle, besides cleansing the tongue and fauces, acts as a gentle repellent, and will sometimes remove a slight guinsey. 54

A Sore Mouth

Mix together honey and white borax, equal parts, and with a linen rag tied to the end of a skewer, rub the mouth well three or four times a day. 55

ORAL PATHOLOGY

The almanacs of the nineteenth century also contained many references to soft tissue oral lesions. It must be remembered, however, that some confusion concerning the diagnosis of these lesions was present; i.e., the cancers referred to were more probably herpes simplex, or aphthous ulcers, rather than true neoplasms. The first of such recommended treatments was presented in 1803.

To Cure a Cancer in the Mouth

Take a small handful of rue chopped fine, then take the white of an egg, and a spoonful of honey, and beat it up with as much wheaten flour as will thicken it to spread on a piece of cloth or leather, adding the rue. Apply the plaister under the chin until it falls off, and then put on another. This alone will restore the gums, though quite eaten away to the naked bone, and fix the teeth, if displaced or loose in their sockets. 56

The above remedy was probably an attempt to alleviate the symptoms of chronic periodontitis, rather than a malignancy. It seems highly doubtful that any plaster of this nature would exert a therapeutic effect intraorally.

Another interesting and similar example was found in the Hutchins Improved: Almanac and Ephemeris in 1804.
Wands

Cure for the Cancer
(extract of a letter)

"While I was at Smyrna there was a girl afflicted with a cancer in her lips, and the gum was affected. The European physicians consulted on the measures to be taken, and agreed that they saw no other method than to cut it out; and the girl had already submitted herself to the decision. By an accident of that nature which men cannot account for, an old American came to them just in time to prevent the application of the knife. "Do nothing," said the American, "I will cure her;" and when he had pledged himself strongly, the physicians consented. He procured a copper vessel, newly tinned on the inside (an essential circumstance) and having poured a certain quantity of olive oil into it, he made it boil over a small fire, sufficiently to keep it gently agitated, and so for three times in 24 hours. When this oil resolved itself to the consistency of an ointment, and by constantly rubbing the parts affected, he cured her in 14 days - nothing else was done. The physicians supposed that the oil received its virtue from the tin, and it was communicated by its long boiling over the fire."57

Two remedies which have a limited pharmacologic action were found in Gates' Troy Almanac For 1840:

Sore Mouth

Burnt alum held in the mouth is good for the canker.

The common dark-blue violet makes a slimy tea, which is excellent for the canker. Leaves and blossoms are both good. Those who have families should take some pains to dry these flowers.

When people have a sore mouth, from taking calomel, or any other cause, tea made of low-blackberry leaves is extremely beneficial.58

A similar remedy was found in an 1842 almanac.
For Canker or Sore Mouth

Steep blackberry leaves, sweeten with honey, sprinkle in a little burnt alum, and wash the mouth often with this decoction.59

The value of such remedies is obscure. The alum exhibited some astringent action, and in some instances the solutions acted as a demulcent, while the natural defensive processes of the body healed the wound.

The "mercurial ulcer" cited below could be more accurately diagnosed as acute necrotizing ulcerative gingivitis.

Mercurial Ulcers in the Mouth

Large dark looking ulcers in the mouth are a common effect of the abuse of mercury. They may be known by the horrid smell of the breath, by the teeth being loosened from the gums, and by a coppery taste in the mouth. Treatment: Omit all mercurial preparations - wash the mouth frequently with sage tea or vinegar and water - drink freely of sarsaparilla tea, and keep the bowels open with sulfur.60

ORAL SURGERY

The practice of oral surgery during this period was primarily limited to exodontia. The following are some examples of humorous and bizarre attempts at tooth extraction presented in the almanacs.

Tooth Drawing

The art of drawing teeth has of late years been greatly improved on, and many persons now practice the dentist's art alone. A pair of blacksmith's pincers were formerly used, and the "teeth drawn by a touch" was never thought of. It is really admirable with what ease the operation is generally performed by dentists. We have heard tell of a man who applied to a dentist in London to have a tooth drawn, which was quickly performed, and he asked "What was to pay?" "One shilling only," was the answer;
"A shilling," said he, "and had so little trou-
ble! Why a man in the country had to drag me
over his shop for about half an hour before he
could get the tooth out, and for all that he
only charged me sixpence." 61

A certain dentist was called upon be a person
of great dimensions, for his assistance to
dislodge a tooth, which had begun to raise a
mutiny among his nerves. The patient being
seated on the floor, so as to accommodate the
doctor, who was a small man, he begun to open
his mouth nearly in manner and form of an old-
fashioned fall-back chaise; and the astonished
operator, who stood before him, fearing there
might be a second edition of Jonah, exclaimed
with terror in his countenance, "You need not
extend your jaws any further, for I intend to
stand on the outside while I extract the tooth. 62

Dental advertisements also appeared in some almanacs
beginning in the early nineteenth century. The following
appeared in Hutchins' Improved Almanac of 1831.

DENTIST

E. BRYAN, SURGEON DENTIST

No. 22 Warren Street, near Broadway, New York,
Continues to perform all operations on the
teeth, upon the most approved scientific prin-
ciples, and reserves to himself the exclusive
use (in this city) of his PATENT PERPENDICULAR
TOOTH EXTRACTOR, now brought to great perfec-
tion, and pronounced, in the opinion of
eminent physicians and surgeons in this city,
"decidedly superior to any instrument in pres-
ent day use," etc. 63

An interesting technic was presented to the public in
1846.

The Dentist

It would be unfair, even were it possible, to
unveil all the mysteries of Dentistical prac-
tice. The following modes, however, of extracting
teeth may be mentioned, as they will, no doubt serve to exemplify the extraordinary genius of the Profession. Their principal recommendation is, that while always effectual, they are as slightly as possible painful to the patient, and calculated, at the same time, highly to divert the looker on.

If the tooth to be extracted is situated in the upper jaw, place the patient on a chair. Then secure the tooth with a long pair of tongs, fixing their position by a screw like that of a hand-vise. Then place your heel under the patient's chin and hold the handle of the instrument in both hands; then a sudden extension of the leg and flexion of the arms will effect the desired result: — the operator, from a trifling excess in the power applied to the fulcrum, rolling with the tongs and tooth one way, and the patient the other; both, most likely, head over heels; a sight very laughable to behold.64

A common-sense approach sometimes superseded the mystical procedures in dental practices of the times. The following procedure is commonly practiced by present-day oral surgeons.

To Stop Bleeding From the Cavity of an Extracted Tooth

Noticing the case of Mrs. Locke, who bled to death in consequence of the extraction of a tooth, Dr. Addington, of Richmond, Va., says he never fails to stop bleeding by packing the alveolus from which the blood continued to trickle, fully and firmly with cotton moistened in a strong solution of alum and water. He cured a brother physician in this way, whose jaw had bled for two weeks.65

Another unusual method of extraction was published in the Hagerstown Town and Country Almanac of 1862.

Dentistry

Amongst the vagaries of the eccentric physician
Wands

(Monsey), was the way he extracted his own teeth. Round the tooth sentenced to be drawn he fastened securely a strong piece of catgut, to the opposite end of which he affixed a bullet. With this bullet and a full measure of powder, a pistol was charged. On the trigger being pulled, the operation was performed effectually and speedily. The doctor could rarely prevail on his friends to permit him to remove their teeth by this original method. Once a gentleman who had agreed to try the novelty, and had even allowed the apparatus to be adjusted, at the last moment exclaimed, "Stop, stop, I've changed my mind." "But I haven't, and you're a fool and a coward for your pains," answered the doctor, pulling the trigger. In another instant the tooth was extracted, much to the timid patient's delight and astonishment.66

CONCLUSION

A surprising number of dental references were contained in the American almanacs of the eighteenth and nineteenth centuries. A definite advancement in treatment methods and preventive practices were illustrated. As would be expected the dental problems were similar to those of today, and yet many forms of treatment are closely related.

The quantity of information emphasizing meticulous oral hygiene practices is astounding. It is also noteworthy that these measures were given importance because of insufficient restorative procedures. Many of the present concepts and habits, i.e., brushing morning and night, derived their origins several hundred years ago. Almost all of the diagnostic symptoms and criteria were observed, but confusion existed in the formation of a definite treatment plan. The significance of dental calculus deposits and relation to periodontal disease was demonstrated and published in almanacs; recent forms of periodontal therapy being based on this fact.

Early Americans were quick to learn the pharmacologic action of household chemicals, alum, nutgall, gunpowder, soap, salt, essential oils, etc. Although relief of pain was of primary concern, and justly so, a healthy feeling of the oral cavity, white teeth, reduction of foul tastes and breath odors assumed paramount significance.

Thus by reviewing closely the almanacs as a literary reference source found in average American households of the nineteenth century, a fairly accurate picture of dentistry of the times may be presented.

FOOTNOTES


3. Mary K. Goddard, *The Pennsylvania, Delaware, Maryland, and Virginia Almanack*, 1786; Baltimore, Md.


6. William Goddard and James Angell, *The Pennsylvania, Delaware, Maryland, and Virginia Almanack*, 1790; Baltimore, Maryland, p. 28.

   Andrew Beers, *Phinney's Calendar; or, Western Almanac*, 1814; Philom, Cooperstown, N. Y., Printed by H. & E. Phinney.


   Andrew Beers, *Phinney's Calendar, or Western Almanac*, 1817; Philom, Cooperstown, N. Y., Printed by H. & E. Phinney.
   Gruber and May, *The American Farmer's Almanack*, 1822; Hagerstown, Md., p. 31.

William Collom, Poor Will's Almanac, 1830; Philadelphia, Pa., Published by Kimber & Sharpless.

   Samuel Burr, The Freeman's Almanack or Complete Farmer's Calendar, 1826; Published by O. & W. M. Farnsworth & Co., with the maxims and advice of Solomon Thrifty, Cincinnati, Ohio.
   Alexander Ming, Ming's Hutchins' Improved Almanac and Ephemeris, 1826; New York, N. Y.

   Cushing and Jewett, Washington Almanac, 1829; Baltimore, Md., p. 33.
   David Young, Hutchins' Improved Almanac and Ephemeris, 1829; Philom., New York, Published and sold by Caleb Bartlett.
   Joseph Crammer, Citizens' & Farmers' Almanack, 1830; Printed and Published by Griggs & Dickinson, Whitehall, for the Booksellers, Philadelphia, Pa.

13. Edwin E. Prentiss, Stoddard's Diary; or Columbia Almanack, 1828; Hudson, N. Y., Printed and Published by A. Stoddard.

14. Edwin E. Prentiss, Phinneys' Calendar, or Western Almanac, 1829; Cooperstown, N. Y., Printed by H. & E. Phinney.
   William Collom, Poor Will's Almanack, 1829; Philadelphia, Pa., Published by Kimber and Sharpless.


16. Elisha Dwelle, The Freeman's Almanac, 1840; Cincinnati, Ohio, Edited by Solomon Thrifty.


18. Z. Clark's Troy Almanac for 1842; Troy, N. Y., Published by Z. Clark, W. Tuttle, Printer.


22. O. Swingley, Swingley's One Hundred Year Almanac, 1776-1876; Baltimore, Md., p. 43.
Andrew Beers, *Phinney's Calendar, or Western Almanac*, 1823; Cooperstown, N. Y., Printed by H. & E. Phinney.
38. Andrew Beers, *The Farmer's Calendar, or Utica Almanack*, for the Western District of the State of N. Y., 1807; Printed and sold by Asakel Seward.
39. Samuel Burr, *The Freeman's Almanack*, 1828; Cincinnati, Ohio, With the maxims and advice of Solomon Thrifty, Published and sold by N. & G. Guilford.
John Nathan Hutchins, *Hutchins Improved Almanack and Ephemeris*, 1807; New York, Printed and Sold by Ming & Young.
41. Andrew Beers, *Phinney's Calendar, or Western Almanac*, 1822, Cooperstown, N. Y., Printed and sold by H. & E. Phinney.
42. Charles F. Egelmann, *The American Farmer's Almanack*, 1824; Hagerstown, Md., Printed and sold by Gruber and May.
43. Gruber and May, The American Farmer's Almanack, 1827; Hagerstown, Md., p. 21.
44. Edwin E. Prentiss, Stoddard's Diary; or Columbia Almanack, 1828; Hudson, N. Y., Printed and Published by A. Stoddard.
   Joseph Crammer, Citizen's and Farmer's Almanack, 1828; Philadelphia, Pa., Printed and Published by Griggs and Dickinson.
45. Joseph Crammer, Citizen's and Farmer's Almanack, 1830; Philadelphia, Pa., Printed and Published by Griggs and Dickinson.
46. Hutchins' Improved Almanac and Ephemeris, 1835; New York, Published and sold by R. Bartleth and S. Raynor.
47. David Young, Hutchins' Improved Almanac and Ephemeris, 1843; New York, Published and sold by H. & S. Raynor.
50. John Gruber, Hagerstown Town and Country Almanack, 1850; Hagerstown, Md.
    Fisher & Brother, The American Farmer's Almanac, 1858; Baltimore, Md.
52. John Gruber, The Hagerstown Town and Country Almanack, 1846; Hagerstown, Md.
54. Mary K. Goddard, The Pennsylvania, Delaware, Maryland, and Virginia Almanack, 1786; Baltimore, Md., p. 21.
55. David Young, Hutchins' Improved Almanac and Ephemeris, 1843; New York, Published and sold by H. & S. Raynor.
56. Isaac Rue, Hutchins' New York, Vermont, Massachusetts, and Connecticut Almanack, 1803; Troy, N. Y., Printed by T. Collier.
57. John Nathan Hutchins, Hutchins' Improved Almanack and Ephemeris, 1804; New York, Printed and sold by Ming and Young.
58. Gates' Troy Almanac for 1840; Troy, N. Y., Published by N. Tuttle, printer.
59. Clark's Troy Almanac for 1842, Troy, N. Y., Published by Z. Clark, N. Tuttle, printer.

63. David Young, *Hutchins' Improved Almanac*, 1831; New York, Published and sold by Sneden and Hathaway.

64. *The Old American Comic Almanac*, 1846; Boston, Mass., Published by William J. Reynolds.


Now that dentistry has acquired a solidly established identity and status as a worthy member of the family of professions, it can well afford to be rallied and lampooned for the whilom "follies and absurdities" that characterized large segments of both its loosely designated practitioners and its bumbling efforts to achieve appreciative acceptance by the public. The present generation of dentists will logically be amused and perhaps sharply informed, rather than be offended, by the ridicule cast upon their professional ancestors by th American humorists of the nineteenth century.

The astringent treatment of nineteenth century dentistry by many of the widely read writers throws an interesting light on the collective psychology of the period. Although intended primarily to entertain, the literature of humor constituted a form of social criticism, the writers using the comic spirit as a bludgeon to expose the bombastic pretense of the advertising dentist and to lampoon by hilarious incident the stumbling efforts of the poorly informed and sparsely trained practitioner to perform the limited services of the extraction and the replacement of teeth. The fact that the general public lacked confidence in dentistry, as well as medicine and law, encouraged the humorists in their selection of dental situations as broad targets for their caustic attacks.

There are many reasons why these humorists found an enthusiastically receptive public for their impressively numerous and intensively vigorous assaults on dentistry as it was practiced in the eras of their pervasively negatory observation. Many of these reasons were so well known that they contributed to a general public attitude of distrust and suspicion: distaste for the usual inhumane dental operation and its often disastrous results; lack of knowledge of or acquaintance with the conscientious efforts of the qualified dentist; and the dependence by the scattered groups of the population on the unskilled services rendered by the itinerant and casual operators. There were many other reasons less directly but importantly contributory to the public concepts of dentistry's status as a profession struggling erratically and unsteadily for public acceptance and recognition: the weaknesses manifested extensively by dentistry itself in the areas of education, organization and legislation; the deplorable lack of public instruction in oral hygiene; and the combination of economic and social factors that precluded the majority from seeking the
ministrations of the capable dentist and resultantly from experiencing the preventive and operative aspects of dental services.

In both subject and style, the humorous literature of the nineteenth century was in strong contrast to the polite literature of the time. The latter classification embraced most of the century's literary production; but its treacly sentimentality, sermonic didacticism, preposterous use of coincidence, frothy pathos, and lifeless characters made it repellent to the large audience for which the humorists wrote. The humorists were literally the darlings of their devoted lower and middle class readers. They used effectively the then popular stylistic elements of exaggeration, caricature, burlesque, picturesque phrasing, elastic imagination, and vulgar characterization. Their favorite devices were the tall story, the hoax, blunders of judgment and action, and the practical joke.

Sol Smith, a man of various occupations, became widely known as one of the most colorful figures in the history of the American stage. His Anecdotal Recollections, published in 1845, contains "Incident at Natchez: 1828" in which he relates a practical joke played on a member of his theatrical company, who had been a dentist. This chap expected to charm audiences with his vocal powers and "line his pockets by the exercise of his dental acquirements." He was sent a note supposedly from Mr. Tooley, a justice of peace who was a violent opposer of the theatre, requesting this now casual practitioner to visit his home for the purpose of performing a dental operation on his wife. Dr. Carr, "dressed up in the finest manner and with a miniature chest of drawers under his arm," arrived at the justice's home. After receiving a puzzled reception, he announced: "I belong to the theatre:—I've brought my hinztruments— I'm going to dine with you, and then I'm going to hoperate on your wife."

When the justice seized a chair and raised it over the visitor's head, the poor doctor, "in utter surprise, made a precipitate retreat, roaring murder! At the street-door his foot slipped, and he fell headlong down the steps, his hinztruments flying in every direction."

One of the most prolific and important sources of nineteenth century American humor was Spirit of the Times, a periodical published in New York, founded by William T. Porter in 1831 and continued until 1885. "Uncle Johnny's Tooth Pulling Story" appeared in the Spirit in 1845. The author was Phillip B. January of Mississippi, writing under the pseudonym of "Obe Oilstone."
The patient of the story lay flat on his back on the floor, "a big nigger aholt of each hand, holdin him spred out — the Doctor in his shirttail setting straddle on his breast with a pair of bullet moles in his hands trying to pull out one of his teeth! ...The Doctor dropt the moles for he found out that everytime he'd jerk they'd slip; so he sings out for the pinchers. ...Will was takin on wonder-ful. ...Henry, who had been leanin over to Will's lip, puts his chin right over the candle and before he knew it his whiskers was in a big blaze! He drops the candle right into Will's face — nigger let go and jumpt — Bob and the Doctor fell in a lump, tongs and all. ...It beat all tooth pullins I ever seen." The victim of this election spree incident had "swallered" his tooth.

"Dental Surgery," by "Amite," of Vicksburg, Mississippi, was printed in the _Spirit of the Times_ (February 23, 1850). A dentist had hung out his sign in a Southwestern town. The gilded sign had his name and the title of Dental Surgeon, "with a row of teeth capping the whole." He had been led to settle in this strange place on a friend's testimony that "it would be a good opening from the fact that a good portion of the year was devoted to frolics of various kinds, and at such times there was a universal gouging out of eyes, pulling of hair, and best of all, a breaking off and knock-ing out of teeth." However, as one prospective patient told him, "There warn't no use to have em put in at an expense to be knocked out free gratis for nothing."

The still hopeful dentist was aroused in the middle of the night by an anxious husband to attend his wife four miles away. Surprised to find the patient in bed, the den-tist said, "Now, Madam, will you please open your mouth, and I will pull it out in a sec---." Then the husband ex-ploded, "Me right here, and dono what to do; and you right here a d--- tooth doctor, and dono what to do no more nor I do." Fortunately the delivery was happily accomplished by the assistance of a negro nurse.

As the shocked dentist mounted his horse, the backwoods-man said, "You must excuse me for the trouble I've put you to, but the fault is mostly your own for hanging out that sign. In these parts we dono much about big words, and I
thought your 'Dental Surgeon' was a sure enough doctor, and I'd a swore that what you meant for a picture of a row of teeth was just like what Sal's sister sent here from New Orleans, and she called it an abominable supporter—and d--- me if that was for any head fixing:"

Henry Clay Lewis, a graduate of a medical school, wrote as "Madison Tensas, M.D., the Louisiana Swamp Doctor." In 1850, when he was 25, his satirical sketches of medical training and practice were published as *Odd Leaves from the Life of a Louisiana Swamp Doctor*.

In "The City Physician versus the Swamp Doctor" we find this enlightening commentary: "The city physician has a costly Parisian instrument for performing operations and scorns to extract a tooth: the swamp doctor can rarely boast of a case of amputating instruments and practices dentistry with a gum lancet and a pair of pullikens."

"The Mississippi Patent Plan for Pulling Teeth" is the best known sketch of this major humorist of the old Southwest. After much haggling over the fee, an apprentice medical student agrees to extract the aching molar of a huge Kentuckian for a quarter, with a dose of castor oil thrown in—the tooth to be pulled on the "Mississippi Patent Plan" without the least pain. The Plan involved the use of these available surgical devices: a chair with "straps to confine the body and limbs of the patient"; blocks and pulleys fastened to iron bolts driven into the wall; and a small hand vise. With the unsuspecting victim strapped in the chair and the vise screwed to the tooth and connected with the pulley cord, the operator, assisted by two fellow apprentices, commenced the extraction. The rope gave way, precipitating the assistants into a corner. The chair was uptorn and propelled the patient to the floor. As he fell he struck the side of his face against the wall, and out came the vise with a large tooth in its grasp—the wrong tooth. But the shattered patient got $4.75 in change from a five dollar Kaintuck bill—it was counterfeit.

*Harper's New Monthly Magazine* for July 1855 contains a poetic version of a humorous definition of a dentist that I have traced in essence as far back as 1759.
A dentist, love, makes teeth of bone
For those whom fate has left without,
And provision for his own
By pulling other people's out.

Jonathan F. Kelley, who contributed humorous sketches to many periodicals, used his middle name as a pseudonym. His *The Humors of Falconbridge* was published posthumously in 1856. One of these "humors" was "Bill Whiffletree's Dental Experience," the best of the sketches depicting the suffering of the patient from unskilled treatment by a counterfeit professional.

There came to Rockbottom, N. Y. Dr. Hannibal Orestes Wangbanger whose "gift of gab" and an album-full of fancy certificates soon "set everybody in a furor to have their teeth cut, filed, scraped, rasped, reset, dug out, and burnished up." Young Bill Whiffletree sought an opinion about a tooth he thought had a "speck" on it. Wangbanger soon convinced his victim that "the said molar not only was specked, but out of the dead plum of its nearest neighbor at least the 84th part of an inch! ...In the course of a few weeks that tooth would have exfoliated, calcareous suppuration would have ensued, the gum would have ossified, while the nerve of the tooth, becoming apostrophized, the roots would have concatenated in their hiatuses, and the jaw-bone, no longer acting upon its fossil exoduses, would necessarily have led to the entire suspension of the capillary organs of the stomach and brain, and death would supervene in two hours!"

The Doctor promised that the necessary plugging and filing would be done in his very best manner, upon the new splendid system invented by himself and practiced upon all the crowned heads of Europe — for three dollars.

After the painful operation, during which his head was clamped to the back of the chair by a sturdy Irish assistant, Bill spent a miserable night and by daylight his cheek was badly swollen and his mouth puckered.

His employer's wife applied laudanum to Bill's tooth and his grandmother prescribed a poultice of mush. Old Firelock, the gunsmith, tortured him by pushing a red-hot
wire through the tin foil filling to the exposed nerve. The creosote given by the druggist burned his tongue. Bill next followed the advice of a stranger: "Put a hot brick to that young man's face." Until noon the next day Bill suffered, then he "started for Monsieur Savon's barbershop, took a chair, shut his eyes, and said his prayers. The little Frenchman took a keen knife and a pair of pincers, and Bill giving one awful yell, the tooth was out and his pains and perils at an end."

The American almanacs often included information for the domestic treatment of dental ills. Some editors were inclined to use Gothic humor even in relation to a "Cure for the Toothache," as in this advice given in The Farmer's and Family Almanac of 1857:

"Get a kettle of water — let it come to a boil, then put your head into it and let simmer for precisely half an hour; take out your head and shake all your teeth into a heap; pick out the decayed ones and throw them away. The sound ones you can put back again."

George Horatio Derby, an Army officer,. contributed humorous sketches to newspapers and magazines, using the pseudonyms John Phoenix and Squibob. These sketches were collected in two popular books: Phoenixiana (1855) and Squibob Papers (1865).

Two of Derby's best contributions are concerned with dentistry. "Tushmaker's Toothpuller" begins with this description: "Dr. Tushmaker was never regularly bred as a physician or surgeon, but he possessed naturally a strong mechanical genius and a fine appetite; and finding his teeth of great service in the latter propensity, he concluded that he could do more good in the world, and create more real happiness therein, by putting the teeth of its inhabitants in good order, than in any other way; so Tushmaker became a dentist. He was the man that first invented the method of placing small cogwheels in the back teeth for the more perfect mastication of food, and he claimed to be the original discoverer of that method of filling cavities with a
kind of putty, which, becoming hard directly, causes the tooth to ache so grievously that it has to be pulled, thereby giving the dentist two successive fees for the same job."

The "toothpuller" was invented by Tushmaker especially for a tooth he had failed to extract with forceps and turn-screw. It was a combination of "lever, pulley, wheel and axle, inclined plane, wedge and screw." This machine was placed over an iron chair rendered stationary by iron rods going down into the foundation of the granite building. In its first trial the patient's head was pulled clean and clear from his shoulders. The postmortem showed that the roots of the tooth extended down the right side, through the right leg, and turned up in two prongs under the sole of the right foot. "Tushmaker was a little shy of that instrument for some time afterward."

However, he tried again on "an old lady, feeble and flaccid." The machine "drew the old lady's skeleton completely from her body, leaving her a mass of quivering jelly in the chair."

Although the second Derby sketch is titled "The Massachusetts Dental Association" it is actually a burlesque of the American Dental Convention meeting held in Boston in August 1857, especially of the excursion to Nahant. A few brief selections from this wildly conceived burlesque will reveal that Derby was lampooning the convened dentists in a manner similar to that customarily used by newspaper editors and writers of the century.

"They bore a banner on which was depicted an enormous corkscrew, with the motto 'A long pull, and a pull all together.'"

"Think of the amount of agony that body of men had produced, think of the blood they had shed, and of their daring and impetuous charges, after the gory action was over!"

"There was the elegant city practitioner, side by side with the gentleman from the country, who hauls a man all over the floor for two hours, for a quarter, and gives him the worth of his money."

There was "the ingenious gentleman who invented the
sudden, though painful, method of extracting a tooth by
climbing a tree, and connecting by a catgut the offending
member with a stout limb, and then jumping down."

"A hackman passing by on his carriage was placed under
the influence of chloroform, all his teeth extracted with-
out pain, and an entire new and elegant set put in their
place, all in forty-two seconds."

An important contributor to the comic literature of
his time was Benjamin Penhallow Shillaber, who created the
character of Mrs. Partington. In Knitting-Work: A Web of
Many Textures (1859) there is this risible but obliquely
complimentary tribute to the dentist’s contribution to the
appearance and welfare of his patients:

"Speaking of falses awakens a ludicrous conceit —
the false making-up of the exterior man: the false eyes,
the false legs, the false teeth, the false hair, the false
lips, the false complexion. Suppose these falses should be
removed, what a mumming among the toothless...there would
be! How the roses of beauty would wither...! ...Timms,
with his false teeth from Cummings and Flagg’s — the very
climax of dental art — grins at Toby, who uses Roathe's
hair dye...!

In the Letters of Susan Hale (1919) there are several
items of dental significance, two of them written in the
nineteenth century. The selected parts of two letters ex-
emplify the skillful use of a characteristic device of the
American humorists: exaggeration. Susan Hale had a good
contemporary reputation in both literature and art.

On May 2, 1872, she wrote:

"Yesterday P.M. I had a great tooth dragged out...
Mines of Golconda, forest of India rubber, miles of gutta-
dercha have been sunk in it. The talent of Hitchcock
(a prominent Boston dentist) and a thousand previous den-
tists have spent themselves upon that tooth..."
On September 19, 1897, she reported hyperbolically another dental experience:

"I had to go to Boston on account of my celebrated back tooth, which has been a source of income to dentists since 1833. It finally broke off...and I repaired to Piper to have it repaired. He got into my mouth along with a pick-axe and telescope, battering ram and other instruments, and drove a lawn-cutting machine up and down my jaws for a couple of hours. When he came out he said he meant wonderful improvements, and it seems I'm to have a bridge and a mill-wheel and summit and crown of gold, and harps, and Lord knows what, better than new."

In C. H. Webb's *John Paul's Book* (1874) there is another humorous account of a dental convention, the annual meeting of the American Dental Convention held at Saratoga in 1873.

According to John Paul's report the high light of the convention was the discussion of amalgam. After Dr. Wrenlace had demonstrated the technic of amalgam filling, "Dr. Treeters of New York got up and told how it might soonest be taken out, giving it as his earnest conviction that any dentist who...uses such a relic of barbarism as the combination of quicksilver and ironfilings, known to the profession as 'amalgam'...deserves himself to be drilled just back of the ear with one of those infernal buzz-saws lately introduced into dentistry under the name of 'mechanical drills,' have the cavity scraped with a coal-shovel, and to be finally 'plugged' with a set of forceps shot from a musket..."

"The question whether aching teeth or gunpowder had caused most misery to the human race (also) elicited a deal of discussion."

Scattered in the newspapers of the time are fugitive examples of the humorous treatment of dental practice. As such contributions were eagerly welcomed by editors it is usually impossible to identify the source of their origin.
The following was written as a true narrative of an occurrence in Warrenton, Va., in 1874:

"A few weeks ago a dentist came to town and advertised that he would remove all of a person's teeth for two dollars, and insert a new set for ten dollars, besides giving six months' credit. The Warrenton people are very fond of bargains, so there was a rush for the dentist's office. He was busy for two weeks pulling teeth, and at the end of that time half the people had empty gums, and a bone-dust factory in the neighborhood doubled its workmen so as to grind up the teeth.

"Meanwhile the people were waiting for the dentist to fit them with new sets, the abandoned scoundrel eloped with the hotel keeper's wife, and now there are two or three thousand people in town who cannot eat anything tougher than soup and farina. All the butchers have failed, and not a cracker has been sold for three weeks. One man, it is said, whittled out a set of wooden teeth for himself, but the first drink of whiskey he took — Cincinnati whiskey — set them in a blaze, and his funeral came off next day. The dentist will hear something to his disadvantage if he comes back."

I discovered in Ellery Queen's Mystery Magazine of April 1953, "Murder by Extraction," which the Magazine had rescued from a long forgotten book by John Oakum with the whimsical title Oakum Pickins (1876).

A dentist relates to Oakum a harrowing incident that he had experienced in 1857. A stranger appeared in his office in Silesia, Michigan for an extraction. On the dentist's failure to accomplish that result, the patient promised to return in a few weeks. Responding determinedly to the challenge the dentist made elaborate preparations for another attack on the mocking molar. Closely paralleling the efforts made by Derby's "Tushmaker" in erecting his "Toothpuller," the dedicated dentist procured twenty feet of leather, three pounds of screws, fifty feet of rope, a vise, a small derrick block and a windlass. He screwed the chair to the floor, and made a harness. Finally the patient made his appearance. The result of the operation was
very similar to that achieved by Tushmaker's contraption — "at the end of the rope hung a perfect skeleton."

Like the majority of the nineteenth century American humorists, Charles Heber Clark chose to write pseudonymously. As Max Adeler he wrote *Elbow-Room, a Novel without a Plot* (1876). In a chapter titled "Certain Dental Experiences," we find a third example of a dentist using something like a Rube Goldberg creation to extract a tooth. In the Adeler narrative the medium used by Dr. Slugg was "a series of cranks and levers fixed to a movable stand and operating a pair of forceps by means of a leather belt, which was connected with the shafting of a machine shop in the street back of the house." Mr. Potts, on whom it was first tried, did survive the operation but only after enduring a series of body-battering movements that ended when the tooth "gave" — the wrong tooth.

Then Mr. Potts decided to take out his own tooth, using a procedure that I have encountered in many other narratives. Potts "got some string and fastened it to the tooth and to a bullet, rammed the latter into his gun, and aimed the gun out of the window." The tooth came out, but it pierced the thigh of Mr. Dingus, who was trimming a tree. Potts was eventually put under bail for attempted assassination.

In "Miss Charity Speaks of Dentists," No. 24 of *The Grinder Papers* (1877), Mary Kyle Dallas presents an account of the horrendous experiences of the patients who submitted to the dental services of Tiffany Briggs, of Peekskill. Young Briggs had gone to New York, "took six lessons, and came back perfect." Attempting an extraction, Briggs twice got the wrong tooth — he planted them back upside down! On the third try he got only the crown — but it was part of the offending tooth. Then said this skillful neophyte: "I've extracted three teeth — that's six dollars; and then a dollar apiece fur puttin' the two you changed your mind about back — that's eight." The eventual results were catastrophic in pain and discomfort to the victim, but a veteran physician rescued her from desperate straits by extracting the two roots-up replants and the topless fang.
Tiffany Briggs left town but "is practicin' yet a few miles out o' Peekskill, and they do say there never was such an awful place for toothache as them parts is."

The last source I have selected for illustrative commentary is the immensely popular *Peck's Bad Boy and His Pa*, first published in book form in 1883. The author, George William Peck, was a printer and newspaper owner who was twice elected governor of Wisconsin.

The Bad Boy borrowed his father's dentures to fix them in the mouth of his chum's old dog so he could eat better. The boys "tied the teeth in the dog's mouth with a string that went around his upper jaw, and another around his under jaw." Given a bone with some meat on it, the dog began to gnaw. The teeth came off the plate. As the dog thought they were pieces of the bone, he swallowed the teeth. The boys recovered the gold plates — with only two teeth left; they sold the plates to a jeweler. In this episode Peck undoubtedly intended to echo the popular humorous attitude towards "store teeth" and the usually very false-looking dentures of his period.

Although these humorists exposed dentistry by ridicule, they reflected an awareness of the need for good professional standards and aggressively prodded dentistry to examine its shortcomings and to make earnest attempts to improve the conditions of its practice — dentistry saw itself in the comic glass and profited from the exposure. Through their obviously negative popularization of the subject, the humorists, nevertheless, did obliquely contribute to the public's understanding of the problems of the dentist and dentistry.

(Presented at the Annual Meeting of the American Academy of the History of Dentistry, Washington, D. C., October 27, 1967.)
SAINTS IN DENTISTRY

Bruno G. Floria, D.D.S., Hyattsville, Maryland

The term "saint" is a name or word variously employed in reference to a person of acknowledged holiness and virtue.

In the early Church, "saint" was used as a synonym for the faithful. Later the term began to apply more to the martyrs. By the Sixth century, the word had become a title of honor applied almost exclusively to those dead whose public veneration was approved by the Church.

The saints are honored because they are dear to God. The veneration tendered them is a different kind of form and definitely inferior to the adoration reserved for God.

About A.D. 600, the period of "monastic medicine" which preserved the remains of ancient literature and built a cult of faith-healing--an implied belief in the miraculous healing powers of saints and holy relics--Western medicine, as such, went into eclipse.

To the pagans, their gods are similar to the saints of the Christian belief. To the unbeliever, or atheist, there is no Supreme Being of any kind, so consequently there are no mediators to act as liaison between themselves and the Lord.

Whereas I have been able to account for approximately ninety-three patron saints to whom sufferers of physical and mental tortures often appeal for their intercession in asking the Lord to grant them relief, they are all related directly to the medical side of the story. It appears that for the dental sufferers there is a significant lack of patron saints to whom they might appeal for help. One reason, perhaps, for this lack of available saintly intercession is the fact that dental pain is most often so acute that there seems very little time for the sufferer to get down on his knees and pray for relief.

During the period from the First to the Sixth century, individuals humbled themselves by enduring suffer-
ing as a penance for some wrongdoing or as an offering to God, similar to the pagan practice of making a sacrifice to the Gods.

In the last year of the reign of Emperor Philip, an uprising against the Christians broke out at Alexandria. Led by a so-called prophet, the pagans seized three people. One was an old man named Metras whom they tried to force to blaspheme. When he refused, they beat him, put out his eyes and stoned him to death. Another they seized was a Christian woman named Quinta. They led her to the temple and tried to force her to worship the idol there. When she refused, she was dragged over the rough cobbles with both her hands and feet bound. She, too, was stoned to death.

During this same disorder, the long and virtuous life of the Virgin Apollonia was ended.

On the same day she was seized and struck on the jaw so hard all her teeth were broken. They then led her outside the town, lighted a great fire, and threatened to throw her into it unless she renounced her Christianity. However, she asked for a moment to recollect and, as the fanatics freed her for a moment, she took advantage of the inattention and threw herself into the flaming pyre, impelled by the Holy Spirit.

This is but one version of the martyrdom of the maiden of Alexandria. The more accepted version is that she was seized in Alexandria in the year 249 A.D. and imprisoned. It is said that during her long imprisonment, her teeth were knocked out with iron-pointed spears in the hope that the suffering would force her to renounce her belief in Christianity. During her long imprisonment, she asked the Lord to grant relief from dental pain to those sufferers who should so invoke his name. It is said that the Lord appeared to her in a vision and said that her wish would be granted. She was burned at the stake. In A.D. 300, she was canonized and became the Patron Saint of the Dental Sufferer.

Today, Saint Apollonia is acclaimed as the Patron Saint of Dentistry and is the only one so designated specifically. Her feast day is celebrated on February 9.

During the early period of Christianity, physicians
Floria

were the group mainly responsible for rendering aid to all ailments, including dental ills. Of the patron saints of medicine, there are a number. Two are Cosmos and Damien, two brothers known as the "moneyless ones" as they would take no money for their services. They treated suffering of the soul as well as physical ailments. They converted sinners, who were many among their patients. Their fame spread and the news of their deeds reached the ears of Lysis who had ordered all Christian beliefs suppressed, who forced Christians to worship the idols by making sacrifices. Cosmos and Damien were seized and beheaded for refusing to worship the idols.

Saint Luke was probably the first of the saints whose intercession was sought for the relief of pain during the early period, he being the first physician canonized.

The early form of relief by appeal to the saints was the recitation of prayer. At first, the prayers were long. Later, as time became more of a scarce commodity, prayers were shortened and frequently direct appeal to the Lord became more of the order of the day. Frequently, the most popular short prayer which was invoked for a favor was: "In the name of Jesus, Joseph and Mary, grant me relief of my suffering." Later, habit and time joined forces to abbreviate the already shortened version to just simply, "Jesus, help me."

It is very probable that, today, two versions of this simple appeal for help are misconstrued both by the user and the accuser as though it were intentionally an act of swearing. The expression such as "God damn this toothache" is in reality a slangish way of asking God to cast into damnation this toothache. Likewise, the expression, "Jesus Christ, what a pain!" is also the slangish way of asking Christ to help him in his hour of suffering and is literally not meant to cast reflection upon the Lord.

I am sorry that my time is limited and the hour is drawing to a close. Besides, the President wishes to adjourn the meeting to attend the exhibits in the museum.


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Bibliography


BOOKS


Seventeenth Annual Meeting

AMERICAN ACADEMY OF THE HISTORY OF DENTISTRY
Doral Beach Hotel, Miami Beach, Florida
Friday, October 25, 1968

PROGRAM

Morning Session, 9:00 a.m.

Meeting - Executive Committee

President's Address - Rear Admiral Alfred W. Chandler, D.C., U.S.N. Ret., Chevy Chase, Maryland

Cephalometric Study of the Dentition of the Paleolithic Man - Phelps J. Murphey, D.D.S., Dallas, Texas


Dr. Horace H. Hayden and Dr. Chapin A. Harris, Their Influence on American Dentistry - Milton B. Asbell, D.D.S., Camden, New Jersey

Luncheon Session, 12:15 p.m.

Introduction of New Members

Presentation of Awards

Yesterday, Today Was Tomorrow; and Tomorrow, Today Will be Yesterday - Hubert A. McGuirl, D.D.S., President-Elect, American Dental Association, Providence, Rhode Island

Afternoon Session, 2:00 p.m.

Dr. John M. Riggs (1810-1885) and His Disease - Henry D. Epstein, D.M.D., Boston, Massachusetts

The Long Journey to Corrientes--The Story of Dr. George Henry Dunster - Dr. Feliciano Ernesto Munoz, Corrientes, Argentina
Afternoon Session (continued)

Early History of Dental Laboratories - Robert J. Rothstein, Silver Spring, Maryland

Business Meeting, 3:30 p.m.

Election and Installation of Officers
1967 - COMMITTEES - 1968

Executive Committee
H. Martin Deranian, Chairman
Gardner P. H. Foley
Stephen P. Forrest
Harry B. McCarthy
Jacob Sharp
Walter C. Stout
Alfred W. Chandler
George E. Batterson
Milton B. Asbell
Donald A. Washburn

International Affairs
E. H. Siegel, Chairman
Harold Hillenbrand
Maynard K. Hine
Harry Lyons
Hubert McGuirl

Program Committee
H. Martin Deranian, Chairman
Malvin E. Ring
Phelps J. Murphey
Gardner P. H. Foley
Gerald Shklar

Finance Committee
H. Martin Deranian, Chairman
Stephen P. Forrest
Milton B. Asbell

Constitution and Bylaws
C. Willard Camalier, Chairman
George E. Batterson
N. William Ditzler

Membership Committee
Bruno G. Floria, Chairman
James E. Aiguier
A. Raymond Baralt, Sr.
Edward J. Forrest
B. J. Hartman
Joseph L. Henry
Frank J. Houghton
Douglas Dick
Charles B. Murto
Raymond J. Nagle
Kenneth V. Randolph
Robert J. Rothstein
John J. Salley
Daniel F. Tobin

Local Arrangements Committee
W. Frank Evans, Chairman
Anthony W. Branon, Jr.
Jorge H. Miyares
Robert Thoburn
Jesse Trager
William Wolf
Milton B. Asbell

Awards Committee
George E. Batterson, Chrm.
Pauline S. Alford
Alfred J. Asgis
Alfred W. Chandler
H. Martin Deranian

Publications Committee
Donald Washburn, Chairman
Walter E. Dundon
Vincent B. Milas
Lon Morrey
T. C. Starshak

Teaching Dental History
George E. Batterson, Chairman
Roy G. Ellis
Harvey S. Huxtable
Harry B. McCarthy
Joseph F. Volker

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COMMITTEES (continued)

Necrology Committee
Russell C. Wheeler, Chairman
N. William Ditzler
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